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SINGAPORE FINTECH FESTIVAL

Singapore FinTech Festival Conference 2019

Day 2 key highlights

12 November 2019

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The US Tech Giants Agenda: Conversation with Intel, Microsoft & Nasdaq

9.00 am

Speakers

- Brad Peterson, Executive Vice President Chief Technology Officer Chief Information Officer, Nasdaq
- Kurt DelBene, Chief Digital Officer Executive Vice President, Corporate Strategy, Core Sevices Engineering and Operations, Microsoft
- Parviz Peiravi, Chief Technology Officer, Financial Services Industry Solutions, Intel Corporation

Moderator: Adrienne A. Harris, Founder, CodexStrategies

Key points

Nasdaq is one of the largest equity exchanges in the world. It is also a technology company that provides market technologies to many of the world's exchanges. Brad Peterson is most excited about Nasdaq's adoption of cloud technology and its ability to take internally developed solutions and turn them into consumable APIs. Kurt DelBene believes that cloud technology is really changing the way financial services operate and companies are using it to transform themselves. Parvis Peiravi looks forward to collaboration with customers and partners to drive innovative changes across industries such as financial services.

A recent World Economic Forum report highlighted that the majority of disruption in financial services comes from large technology companies as opposed to start-ups.

Companies making major investments in cloud are capable disruptors regardless of which industry they operate in. If these companies enter the financial services space, they could pose a major threat to existing players in the industry. One area that they could move into is payments as there are opportunities for technological disruptions. If established companies do not disrupt themselves, they would not be able to keep up with the competition. Start-ups also have the ability to disrupt the industry. One example is LinkedIn. From a company with a business and engagement model that did not even exist, they are now strong competitors in the business social networking industry. Start-ups have the ability to come up with innovative ideas and have them tested at a faster frequency. Larger companies like Intel are looking into stabilising that innovation and scaling the capability. Hence, both parties can benefit from one another, as established companies can work hand in hand with start-ups to provide them the infrastructure to turn their ideas into reality.

Collaboration in the new world, between incumbent financial institutions, start-ups and regulators, is not a luxury but a necessity. It is important they work together as a team so that everyone understands the capabilities that technology can bring to the table. When regulators are more involved in the process from initiation to development of the technology, approval and certification happen at a much faster rate.

In terms of anticipating the future direction and trends, industry leaders usually get signals from their partners that help them identify trends that are emerging from the industry. Secondly, they look at what start-ups are doing as well as hear from larger companies what their needs are and what they hope to accomplish. With that, the team can develope a vision of where the industry is heading and figure out what is the investment roadmap that can get them there.

It is important for leaders to understand that markets are not homogenous and are different in various places. The critical thing is to establish a presence in these markets through partnerships and

recruitment of key talent. It is important to be aware of the emerging trends on the ground so that they can react accordingly and identify the right market to launch products and services.

It is important for employees to feel like they are part of the future of the company. When people feel like they are part of the organisation and are responsible for driving change in the company, they are more motivated to work. In order to retain talent, companies need to have an enabling platform to keep the employees in the company excited. Universities provide a great platform for talent management as they are shifting their curriculum to equip their students with the necessary skills to work in the technology industry.

Collaboration with regulators worldwide is key to success. For example, the co-development of Anti-Money Laundering ("AML") solutions, providing use cases to illustrate that the technology works and MAS' efforts in organising FinTech events to provide a forum for the regulator to socialise and familiarise themselves with emerging technologies

In closing, cyber threats are more sophisticated than ever and companies need to rethink their strategy around security. Other emerging technologies such as confidential computing, opportunities in APIs and cloud are key topics of interest in this new world.

Photo/s

Macro Vulnerabilities vs Technology Opportunities
9.50am

Speaker

- Anshu Jain, President, Cantor Fitzgerald

Moderator: Haslinda Amin, TV Anchor, Chief International Correspondent Southeast Asia, Bloomberg

Key points

The fireside chat opened by highlighting the negative yield in the interest rate environment. This has affected investing behaviour because a lot of money has made its way to the technology sector and driven up the valuation of the companies in this sector.

This is happening because the low or negative yielding debts have made borrowing cheaper as markets are flushed with cash. The pension fund and insurance companies are being forced to invest this excess money in the private markets to yield decent returns and this would in turn drive up valuations as investors continue to hunt for yield.

On the other hand, markets had expectations that the Google and Facebook phenomena will continue in the near future. However, with 2019 proving to be a disappointing year for tech IPO, the new tech companies find themselves facing challenges to justify their valuations.

Start-ups that are seeking funding through a traditional route, whereby they come up with ideas, create concepts based on this idea, go through several rounds of private funding and then go public, face pressure due to the higher cost of equity in comparison with the cost of debt. In addition, going public will result in higher cost to these companies due to the regulatory and compliance costs. As an alternative, companies with the lack of cash flow can tap on the debt market through proper securitisation or by issuing zero-coupon bonds to dampen the impact of interest payments.

There is scale of opportunities and FinTech potentials in India. There is a huge opportunity for FinTech in India, driven by the recent introduction of a unified payment interface which has resulted in a very low-cost bilateral payment and the increasing rate of smartphone adoption. FinTechs could play a more active role in serving underserved markets and overcoming the challenges of having ready access to these customers and the questions on privacy with regard to the collection and use of data.

The future of FinTech is going to centre around the partnership between the traditional financial institutions and FinTechs. FinTechs can help these traditional players to adopt new technologies to solve their business and operations challenges. Technology companies in recent years have chosen to stay private for a longer time given the flexibility and mobility which comes with being a private company, and the low or negative interest rates environment and private equity market have continued to sustain this phenomena.

Photo/s


Macro Vulnerabilities vs Tech Opportunities
Moderator
Haslinda Amin
TV Anchor, Chief International Correspondent Southeast Asia
Bloomberg
Anshu Jain
President
Cantor Fitzgerald

Sustaining Financial Services - Why Tech Is Key
10.10am

Speakers

- Antoni Ballabriga, Global Head of Responsible Business, BBVA
- Jennifer M. Johnson, President Chief Operating Officer, Franklin Resources Inc (Franklin Templeton)
- Lucas Joppa, Chief Environmental Officer, Microsoft

Moderator: Helene Li, Chief Executive Officer & Co-Founder, GoImpact Capital Partners

Key points

The session opened with a definition that sustainable finance is about alignment of capital flows towards sustainable global goals, in line with the goals of the United Nations and the Paris Agreement. There is currently a growing movement within the market on green finance but more growth is required.

Another perspective on the definition of sustainable finance within the context of asset management is ultimately about capital deployment. Sustainable finance is about obtaining a sustainable net present value, while ensuring considerations on environmental, social and governance (ESG) factors are accounted for. It is important to understand the cost of an investment to society and to ensure inclusion of such costs in the deployment of capital.

Sustainable finance is also about the lending of capital for two types of returns – financial and broader ESG factors. There is currently a robust mechanism in place to track and predict financial returns, but the market is far from being able to do the same for environmental returns on investment (ROI). While there is still a long way to go, technology will continue to play a significant role to help track environmental ROI in the same way as financial ROI.

Within the topic of meeting the needs of the present without compromising the needs of the future generation, there is currently a growing, active participation in the discussion of sustainability. However, a wide disconnect remains between talk and action, as evidenced by the relatively smaller quantum of global assets under management (AUM) for sustainable finance.

To move the needle closer to closing this gap, the challenge lies in the ability to mobilise and align the entire portfolio towards such green causes. Data gap is also a critical factor in the ability to measure risks, opportunities and performance of sustainable finance activities. In order to make the right decisions on data, a risk methodology needs to be in place. There is currently a lack of transparency and inclusivity within the field. While there is vast amount of data, there is currently a lack of agreed framework in place to turn data into knowledge. There is also an implicit bias for larger enterprises to be more successful within this area as they have more resources compared to smaller, mid-cap firms.

Generally, the financial sector dislikes ambiguity and the reason the market is currently better at tracking financial returns is due to its ability to measure the unit dollar of such returns. However, as we move away from broad terms, such as ESG, to more specific outcomes, such as de-carbonisation, there is less specificity and unit measurements to measure such outcomes. Technology continues to play a huge role to help track, measure and report sustainable returns.

On the topic of deploying technology to accelerate sustainable finance, there is a general agreement that more effort is required to connect disciplines of digitisation, FinTech and sustainability goals. The real change will happen when small and medium enterprises are able to get different solutions, powered by data, to help track their sustainable financial returns. The future of active management of sustainable finance is dependent on the company's ability to obtain insights from all data sources. Historically, companies have relied heavily on traditional data sources, such as company filings. However, new

sources of data have emerged, such as social media, and this presents itself as an opportunity to build an ESG framework.

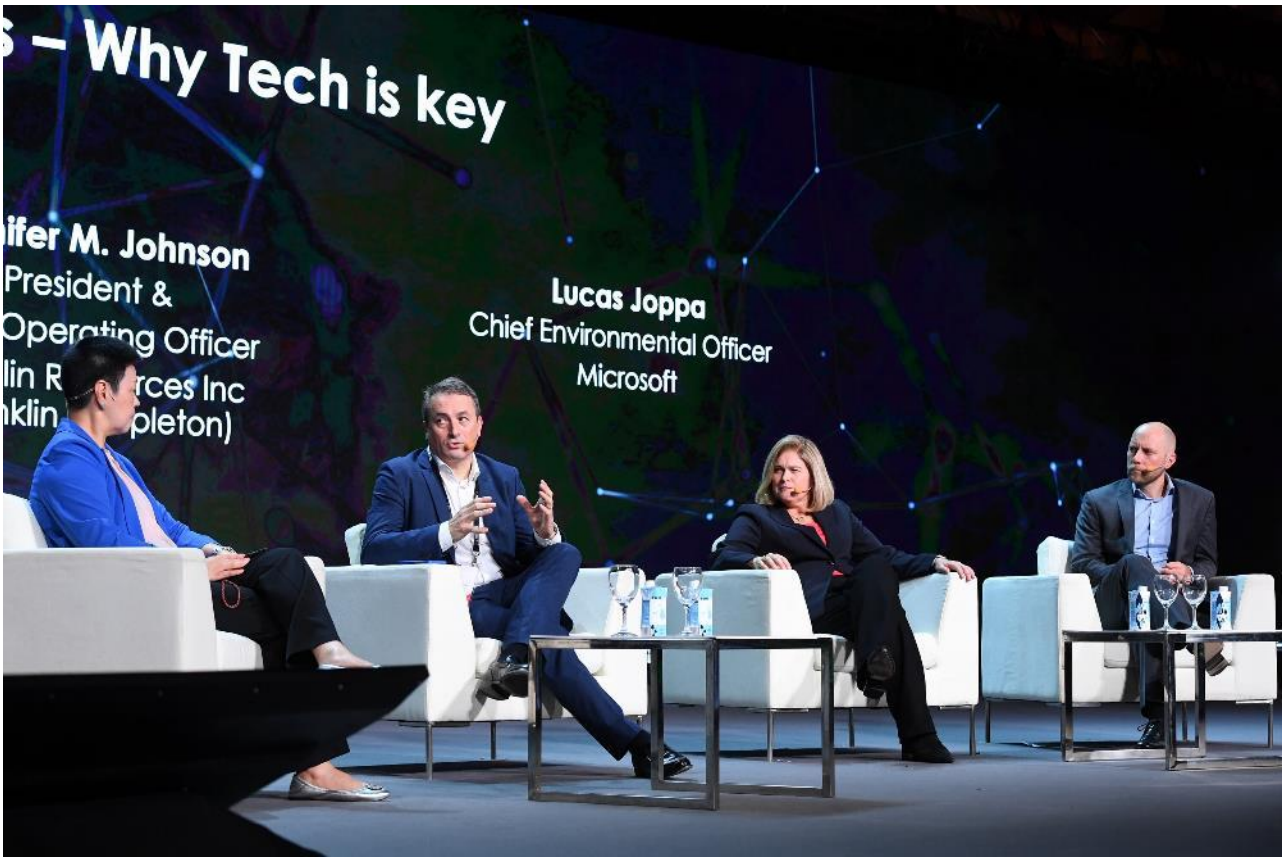
The topic then moved towards tailwinds that are driving the agenda of sustainable finance – one from regulators, and the other, the ability to connect the dots and embed sustainability in an organisation's DNA. While the gap between the environmental impact of investments and regulations is growing, the tailwind behind societal expectations are growing much stronger. There is therefore an opportunity to get ahead. ESG has to be both a vertical as well as a deeply integrated horizontal across the entire business in order to ensure a substantial, sustainable change.

The Network for Greening the Financial System (NGFS) – a group of central banks and supervisors committed to better understand and manage the financial risks and opportunity of climate change – is an example of more activity within the market to promote a common taxonomy and language globally.

The speakers agreed that it is important to be more specific about the changes required, the materiality of such changes to an organisation and society, as well as the trade-offs required. There is also concurrence that being intentional would help move the needle towards more responsible outcomes.

Rewarding the momentum within the industry for sustainable change is important. We live in an era marked by a sense of urgency and opportunity, and sustainable finance is the biggest opportunity for banks in the next 10 years. The future of sustainable finance would be one where sustainability is deeply rooted within businesses and where capital owners would no longer have to be activists about their investments. For this current point in time, however, there is still a need for capital owners to be proactive and stand for issues that are most important to them. In summary, sustaining financial services requires us to be more intentional, more specific and to increase collaboration within the ecosystem.

Photo/s



From carving in stone to writing in DNA: History and Future of Data Storage by Kees Immink, President, Turing Machines Inc.

10.50am

Key discussion points

The greatest invention of humankind is literacy; 5000 years ago, humans were able to write and read, but the pace of reading and writing was very slow as it was in the form of pictures and little icons. It took another 3000 to 4000 years for humans to invent alphabetical scripts and a paper to write. Invention of the paper and alphabetical scripts made it possible to store writings in the form of books. Libraries were hence established around 500 years ago, to safeguard the books and store information in one place.

One of the modern inventions of storing data and one of the key milestones was IBM's invention of the electromagnetic storage device in 1950. Though these devices were expensive and stores little data, this was a breakthrough invention that gave different devices such as Hard Disk Device (HDD) life over the years.

As storage devices evolved, data density was increased allowing the devices to store more data on a smaller disks. The invention of storage media or solid-state drives (SSD), further reduced the size of the storage device. It could store much more data with reduced power consumption when compared to the other storage media. All data centers are equipped with these modern technologies and they are very promising as the capacity for storage increases while the cost decreases.

There some hype and hope in new research that points to DNA digital data storage (DNA) being the next big thing in data storage as it is among the most dense and stable information media known. The development of new technologies in both DNA synthesis and sequencing makes DNA an increasingly feasible digital storage medium.

While using this technology, the writing of data and reading data using DNA is sequential and can be very slow when compared to the current technology (HDD and SSD) which supports random access. But key advantage of using DNA is its data density and durability which is many times higher than the current technologies. For example, the entire Internet can be stored in a kilogram of DNA and consumes less power.

Photo/s


From carving in stone to writing in DNA
Kees Immink
President, Turing Machines Inc

Defining the Future of Digital Currency
11.10am

Speakers

- Mu Changchun, Director-General, Institute of Digital Currency, People's Bank of China
- Christian Catalini , Co-Creator of Libra, Head Economist, Calibra (Facebook)
- HE Serey Chea, Assistant Governor Director General of Central Banking, National Bank of Cambodia
- Umar Farooq, Head of Digital Treasury Services & Head of Blockchain CIB, J.P. Morgan

Moderator: Julia Chatterley, Anchor and Correspondent, CNN International

Key discussion points

The session opened with a discussion on whether the introduction of digital currencies is indeed helping to solve a problem or instead creating fresh ones.

- **JP Morgan digital coin:** This digital coin intends to solve the problems faced only by the clients of JP Morgan and provide better and efficient payments globally for them. However, this digital coin is just a means to an end. If the means become the end, then it will end up creating a bubble.

- **Facebook Libra:** This digital coin intends to solve the problems of the people in the world who are still unbanked and want to send money across borders. It intends to use Blockchain technology to remove the intermediaries involved in cross-border payments that increase the cost of service for such people and fosters financial inclusion.

- **China's Central Bank Digital Currency (CBDC):** The objective here is to help diversify the risks existing in a private firm's lifecycle (whether financial or technical for example phishing attacks, thefts and catastrophic hacks). With two big players in China who control majority of the mobile payments market, introducing CBDC will inject redundancy for the electronic payments market in China through a universal alternative payment solution offered by the government, including access to remote and rural areas for financial inclusion.

- **National Bank of Cambodia's Blockchain-based payment system:** The intention is to use Blockchain technology to leverage the high mobile penetration in the region and create a unified payments platform so that the current banking system and the multiple mobile payment service providers can all talk to each other, and together, help foster financial inclusion at scale. Instead of people keeping money in digital wallets, they can save money in bank accounts, earn interest, and make mobile payments in a cheaper and more convenient way. The central bank issues a wallet for everyone to use, and is able to manage liquidity and regulatory compliance in a simplified manner.

- **Challenges of remittance and financial inclusion:** The speakers then shifted their focus to the discussion on huge fees incurred in remittances by customers and the issue of bringing greater financial inclusion at scale. It was discussed that players like TransferWise have tried to solve cross-border payments and players like WeChat and AliPay have attempted to foster greater financial inclusion.

The session then discussed the risks posed due to the rise of a central bank currency and considered what will happen to the current digital currencies if central banks launch their own digital currency, how digital currencies are relatively new and lack the experience of a central bank currency, which has faced stress cycles.

- **Facebook's Libra:** is a payment network sitting on top of all digital currencies, whether it is the central bank currency or any other digital currency. Hence, it will be able to pick-up any digital currency

which comes up in the market on its platform. However, current commercial banks run a huge risk if the design of the digital currency from central banks are not done correctly.

- **China's CBDC:** Technology cannot be the whole answer in the design of a proper central bank currency and the reduction of cost in cross-border payments. Cost is incurred due to governance, AML, KYC, and security measures. China's CBDC is not targeting cross-border payments. It will keep all the monetary policies and macro supervision untouched when designing its digital currency. The intent is not to make China a cashless society, but cash-light society. It will also focus on 'controlled anonymity' – keeping anonymity for the people who desire so, but at the same time, also keeping the balance, and monitor electronic criminal activities. Currently, the vision is to replace banking currency notes with digital currency.

In the best case scenario for digital currency in the next 5 years, few large global platforms would have successfully solved all use cases, thereby resulting in faster and cheaper cross-border payments (pushing remittance cost to zero) and greater financial inclusion for the unbanked. In the worst case scenario, there will be too many digital currencies without proper regulatory and legal controls, leading to total chaos and turbulence in the global financial market.

Photo/s


Digital Currency
Bank of China

Sustainability, Finance and Tech Stage - Powered by Deloitte: Sustainable Finance

Eyeing humanity's impact on Earth through satellite imagery by Robbie Schingler, Co-Founder & Chief Strategy Officer Planet

1.00pm

Key points

Robbie Schingler is a physicist that worked at NASA. Part of his work requires him to conduct exploration missions in space. However, recently, he decided to shift his focus to Earth due to the many problems facing our planet.

The session opened with an urgent call to action for environment sustainability. While it is possible to manage the process going forward, the pace of change needs to be accelerated. If the world were to remain business as usual, it will be really difficult to change our behaviour towards our planet Earth.

This is a phenomenon called Anthropocene which is defined as the human impact due to human activities and how it is changing ecosystems and the climate.

There have been some key milestones with regard to environment sustainability:

- In 1962, the United State announced that they were going to land on the moon by the end of the decade.
- Rachel Carlson wrote a book titled "Silent Spring" that focused on our responsibilities towards the environment.
- Photo reconnaissance where a satellite was launched into space to take pictures of the planet.
- In 1972, the Apollo 17 Mission resulted in the "Blue Marble" imagery that some claimed sparked the environment movement.
- In 1972, American researchers wrote "The Limits to Growth"; focusing on systems dynamics and understanding how the pace of acceleration on the finite planet is not sustainable.
- In 1972, digitisation of images and transmission via radio frequency meant that satellites are able to relay images of the entire earth.

With the power of satellite imagery, Robbie shared a few key applications:

- Earth's topography to assess the potential impact of rising sea levels. For example, a large portion of Bangladesh is at risk of rising seas levels
- Growth of cities
- Impact and early indication of deforestation
- Response to natural disasters such as floods and wild fire

However, the pictures do not give humanity the tools to act. As such, in order to live with climate change, there is an opportunity to take a systems thinking approach and bring it to life with new high-resolution technology.

The advancement in cloud computing and machine learning means that it is now possible to train models to activate and update entire data sets. Such data can be used by economists to understand impact of economic activities such as new building development, urban planning of public services, and location based disaster response.

With greater amount of data, there is the possibility of creating an indicator that can act as a financial instrument and be brought into the global economic system. When data sets are merged, insight can be gleaned and it will allow for measuring, reporting and verification systems to be formed.

The environment movement requires civic and government action, and requires technologists and purpose-driven companies to take action. It requires all parties to play a role in order to get to a point where humanity can adjust our global climate. With the increase in data, all stakeholders have greater responsibility to use the available data to make better decisions

Photo/s

SDGs: The blueprint for a sustainable future

Speaker

- Mahmoud Mohieldin, Senior Vice President, The 2030 Development Agenda, United Nations Relations and Partnerships, World Bank Group

Moderator: Melissa Moi, Head of Asia Pacific Environment, Social & Governance, Bank of America Merrill Lynch

Key discussion points

In response to the question on what is the most important and urgent Sustainable Development Goal (SDG), it was shared that all goals are equally urgent. However, it was mentioned that when designing policy, there is a need to take context into consideration. For example, a typical Sub-Saharan African country will focus on fighting extreme poverty and malnutrition. While in Asia, the challenge would be to be more efficient, competitive and innovative.

Where the SDGs are concerned, there is a need understand and focus on four key areas:
1) Inclusive growth – higher growth that covers the entire population
2) Social and human development – education and health
3) Climate change and environment
4) Governance

There is a need for an integrated systems approach. For example, any environment policies and programmes will require the support of governments to sustain the positive impacts. The integrated systems approach will enable players within the system to prioritise more effectively.

There is a need of investments in three key areas:
1) Human capital – health and education
2) Infrastructure – new DNA (Data, Network, Artificial) intelligence
3) Resilience - preparation for the unknown

Partnerships are important to bridge gaps of knowledge and financing. Partnerships are also required to effectively coordinate and mobilise resources and execute on relevant activities. It is important for governments to understand their role and not overregulate and impede innovation.

It is good to have an infrastructure that can deal with traditional data system and big data systems concurrently. Many countries have stop collecting data. One such example is data on extreme poverty. As such, there is a need to partner with a range of data providers to provide proxy indicators when undertaking policy design.

Education is another basic infrastructure which needs to be built. Many deprived communities can have access to education through the use of IT solutions. FinTechs can also play a role in managing the payments. The longer term solution around education needs to focus on reducing cost to the minimum.

SDGs will not be achievable without local government action. This is because the local government is the organisation that drives changes. This is especially so for countries with federalised and centralised systems. Government action can be very effective. For example, China 30 -35 years ago was extremely poor yet the Chinese government was able to move the needle and ensure that more people are no longer suffering from the impacts of extreme poverty and have access to education.

Photo/s


MOST URGENT SDGS?
SINGAPORE FINTECH FESTIVAL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Sustainable finance: The trillion-dollar opportunity
2.00pm

Speaker

- Beatrix Anton-Grönemeyer, Managing Director Chief Sustainability Officer, Allianz Global Investors GmbH
- Céline Soubranne, Head of Group Corporate Responsibility, AXA Group
- Michael Baldinger, Head of Sustainable & Impact Investing, UBS Asset Management
- Robin Hu, Head, Sustainability & Stewardship Group, Temasek International

Moderator: Suvir Varma, Senior Advisor, Bain & Company

Key discussion points

The session kicked off with a brief introduction on sustainability investing. According to a recent report, there is a significant increase of investments in Southeast Asia in business models that contribute to environment and social progress. It was observed that this is going mainstream, not just in Southeast Asia, but in all regions.

Financial stability and responsible investment are very significant factors in the diaglogue on sustainability and a comprehensive approach is required for responsible investments. The world has changed and it is important to consider environmental and social impact when creating financial products. It is remarkable how sustainable investing has changed over the last couple of years – it is the fastest growing segment in finance now and there is a need for innovation to offer products integrated with Environmental Social and Governance (ESG) aspects.

Even though sustainability investing is critical and growing rapidly, there is a funding gap. In the investment world, you are not funded if you have not proven or showcased that your business is transforming into a 21st century business platform. The financial industry needs to come up with solutions that are beneficial for everyone; it does not matter which bonds investors are invested in, either green bonds or not, they do expect income. As such, organisations need to come up with innovative products that balances returns with ESG.

The issue with trading returns for ESG is the lack of quality data. There is also no compliance requirement or government policy for disclosures. There is hope that this will change as most governments are enforcing reporting requirements on the organisations.

We have to be more innovative to address climate change issues. Portfolios reflect the reality of the economy, and there is a need to build tools that balances. If we invest everything on green finance, it might create a bubble that might bust the economy. There should be some incentives to change business models so that there is a balance.

Regarding technology and innovation matters, regulators must come and work together with the industry in order to find ways to make things work.

Closing remarks include a call for collective effort towards this common goal – it is not just about the transparency of data but the right matrix with a good level of granularity and education also matters. While results may not be immediate, it will help the world in the long run.

Photo/s


WHAT OPPORTUNITIES DO SUSTAINABLE FINANCE PRESENT?
SINGAPORE FINTECH FESTIVAL

New deal for finance: Natural capital for resilient portfolios
3.00pm

Speakers

- Chris Brown, Vice President of Corporate Responsibility & Sustainability, Olam International
- Michael van der Meer, Director, RobecoSAM AG
- Patrick Andreatta, Head Regulatory Risk Management Asia, Swiss Re
- Richard Kooloos, Director of Sustainable Banking, ABN AMRO Bank

Moderator: Jeanne Stampe, Head of Asia Sustainable Finance, World Wide Fund for Nature

Key discussion points

Scientists have developed a planetary boundaries framework to define the safe operating space for humanity. Crossing these boundaries increases the risk of generating large-scale abrupt or irreversible changes that threaten humanity. Next year, it is certain that the world will cross two additional boundaries including climate change and land system change.

Governments are starting to understand that the depletion of nature poses financial risks. For example, the French government have commissioned World Wide Fund for Nature (WWF) and AXA to write a report on the importance of biodiversity for investors and the need for disclosure on nature-related risks and impacts. Since then, the French government revised their law and financial institutions are required to disclose how they manage climate biodiversity risks. The EU Sustainable Finance Action Plan also requires investors to disclose how they manage environmental and societal impacts of their portfolio.

If the finance sector is ready to align their portfolios to planetary boundaries, a critical piece of the puzzle is the evolution of Environmental, Social, and Governance (ESG) data. The direction points towards real time geospatial solutions and asset level data, which will provide more accurate and comparable insights into impact and alignment with boundaries. This would help investors to understand the risk of environmental risks in sovereign debt performance. Abuse of natural capital will impact the resilience and volatility of long term growth and credit profile.

In the case of Olam, while they are unsure if biodiversity will be impacted, they acknowledge that there is a definite need to invest in nature. Biodiversity is a receptor for a range of challenges and risks. If nothing is done, based on the planetary boundaries, biodiversity will be material in many parts of a business. For example, Olam's business in California require bees for pollination, as a third of all crops produced requires insect pollination. If done correctly, it will increase yield and the resilience of farmers. An area with higher biodiversity would have a lower risk of losing production. Hence, this provides a more stable cash flow, which relates to financial risk of bank financing go-to businesses.

As natural capital collapses, many forms of insurance are likely to be unfeasible. Should insurance companies start to price in the regulating functions and the system services? Swiss Re provides insurance companies coverage for some of their peak risks, in particular for climate-related events such as storms and floods. There is a real urgency due to temperature changes and moving forward, finance will be the enabler in achieving Sustainable Development Goals (SDG).

On whether there would be material financial risk to a portfolio in view of the impact and alignment of planetary boundaries changes, it seems like there is a lot of inertia within the asset management industry. In the 1930s, the Benjamin Graham approach would look at a single company completely in isolation. During the 1950s, the market portfolio efficiency theory came about and till today, everyone looks at how different investment classes such as equity, bonds, and commodities correlate with one another. If there is an increasing number of droughts that leads to water shortage, in the time to come, a real net present value of a water company would be zero. Once people understand that the world is

reaching the planetary boundaries, people would then want a sustainable portfolio that they can pass on. However, not all asset managers have come to understand the current situation.

Photo/s

FinTechs for good: Combating climate change with technology
4.00pm

Speakers

- Christopher Sheehan, Chief Executive Officer, WorldCover
- Jeff Smith, Senior Managing Director, Digital Investment Strategy, CDPQ - Caisse de dépôt et placement du Québec
- Olivier Mahul, Practice Manager, Crisis & Disaster Risk Finance, The World Bank
- Robert Litterman, Chairman of Risk Committee , Kepos Capital, LP

Moderator: Paras Anand, Head of Asset Management, Asia Pacific, Fidelity International

Key discussion points

Investors need to invest sustainably and focus on profit should not come at the expense of social good. The decision to invest in sustainability creates effective competition to motivate industries to start behaving positively for the environment. If companies are given the right incentives, they will behave in an environmentally sustainable way and, in turn, price signaling will steer people to make the right consumer and investment decisions.

The right regulatory frameworks also need to be put in place to allow sustainability to be scaled up. Developers of technology need to keep sustainability at the core of their design so that alternative revenue streams can be generated or built off their original platforms. Even Bitcoin mining, which uses a massive amount of power to keep data centres cool, could be made greener by relocating data centres to more environmentally-friendly locations like northern Canada where it is cold for more than half the year or to China where hydro power is cheap.

To encourage businesses to consider how their business decisions may impact the environment, sustainability should be measured in a company's profit and loss. Suggestions on other ways to encourage sustainability include using a combination of regulation and technologies like low orbit satellites to track compliance and motivating employees via bonuses or KPIs. Businesses need to partner with and invest in clean businesses and collaborate with governments and lobbyists to encourage agreement on policies such as carbon taxation.

On the consumer front, millennials tend to make consumer and investment decisions with consideration for the environment, so businesses can take decisions based on the values of the millennials which would eventually be their biggest consumer demographic.

Photo/s


FINTECHS FOR GOOD: COMBATING
CLIMATE CHANGE WITH
TECHNOLOGY

Sustainability is good for business
5.00pm

Speakers

- Antoni Ballabriga, Global Head of Responsible Business, BBVA
- Mahesh Kolli, Founder & President, Greenko Group
- Piet Dircke, Global Leader Water Management, ARCADIS
- Pratima Divgi, Regional Director: Hong Kong, Southeast Asia & ANZ, CDP Worldwide

Moderator: Agustin Silvani, Senior Vice President, Conservation Finance Division, Conservation International

Key discussion points

The session started with a sharing of the fact that huge investments are happening in sustainability. For example, Starbucks invested heavily in a sustainable supply chain and made a pledge that 100% of its coffee will be sustainable. Other companies such as Apple have also invested in forest conservation.

The topic moved on to discuss how sustainability could benefit companies, especially for banks where it can be one of the biggest business opportunity. BBVA was cited as an example that invested in sustainability and three pillars of its business strategy were introduced:

1. Finance – huge investment was committed including loans, social loans and social bonds

2. Manage - portfolio was aligned with the policies

3. Engage - promotes the idea of collaborating together to other banks

The presentation of the business case attracted huge interest from regulators, retail clients, small and medium enterprises (SME) to households.

It was then discussed how India has moved from using cheap coal and gas to green energy with proven technologies. Huge disruption, especially economic disruption, is happening in India. No private firm wants to enter into coal energy or other traditional energy now.

Next, sustainability in the building and infrastructure sector was discussed. Singapore, for example, is working very well in the area of resilience. The market has moved away from conversations towards identifying opportunities.

It was mentioned that the primary focus of CDP Worldwide as an organisation is the management and integration of climate risk and opportunities. It was highlighted that physical risk is high especially in Asia Pacific, thereby generating climate related financial opportunities for product or services. Sustainable finance on fixed income, sustainable bond, green bond, sustainable loan and other green finance is thus growing fast.

There was also a discussion on the current green bonds in the market (which were introduced more than 5 years ago). It was agreed that there is definitely more awareness and funding for green bonds now compared to the traditional bonds. Beyond the value or liquidity, there is more trust, dialogue and continuous monitoring of green bonds which make them more attractive than traditional bonds. Additionally, FinTech could actually help to connect green money with green projects. Smart tools need to be developed and improved to help with this match-making process. Providing the right tools and data will help accelerate the green business.

It was agreed that sustainability is not a loss-making business. It is highly dependent on the nature of the sector. At the end of the day, there will always be a winner and a loser. Sector domination by big companies has now been decentralised. It is also not a policy-driven outcome but socially driven. Banks are also trying to help, advise and influence the clients today on this.

The issue on the lack of retail investor products in this sophisticated market was also addressed. Initially, it started with green bonds and now demand for green loans are growing. There are good opportunities but it will take time to reach the retail market. Employees also need training as the market is still relatively niche. Digital technologies in the future will definitely improve green funds and new green assets.

The session concluded with the notion that sustainability as a business model has to be profitable. With the help of FinTech, sustainability can make life better and provide more tangible social benefit. It is important to connect our purpose and our business with the impact. The global need for sustainability is there and there are many green opportunities. All we need are the tools to have capital movement at the right speed and in the right direction.

Photo/s

Future of Finance Stage- Powered by Prudential: Payments

Payments are Dead; Long Live Payments - Opening by Joop Wijn, Chief Strategy & Risk Officer, Adyen

1.00pm

Key points

FinTech will continue to win more market share from traditional players, mainly due to the fact they are innovating around customers' needs/experiences rather than rigidly sticking to a product oriented hierarchy.

There are more than 250 payment methods globally and very few companies know how to handle these. When working in B2B or P2B environment, this dynamic must be handled. When all these payment methods are combined with customer data and merchant data, there is a rich set of data which helps not only market/sell and position products better but also gives us indicators for risk and fraud.

Customers are now exporting their experience to online from the offline world. They do not want to queue up at the store, they do not want to take products out of the store and they do not want to use cash/physical cards.

Traditional banks will even lose out in the battle for the offline world due to lack of innovation. Handling payments for banking is capital intensive and the banks would rather focus on more lucrative, more profitable lines of finance.

Regulators are now having to adapt to business models that have elements of financial services but are not traditional banks or insurance providers. This challenge is seen for regulators moving from institutional regulation to activity oriented regulation. Regulators need to therefore focus much more on consumer data protection, integrity of financial institutions (credit, liquidity, solvency), cybersecurity and AML/fraud/financial crime.

Photo/s


Experience is built on
Convenience
Control
Interact on
my terms
Joop Wijn
Chief Strategy & Risk Officer
Adyen

Payments are Dead; Long Live Payments - Panel Discussion

Speakers

- Andrea Donkor, Vice President Global Head of Regulatory Relations, PayPal
- Arik Shtilman, Co-founder & Chief Executive Officer, Rapyd
- Jason Thompson, Chief Executive Officer, OVO
- Joop Wijn, Chief Strategy & Risk Officer, Adyen

Moderator: Dawn Tan, Presenter, CNA

Key points

The session focused on on several key themes:

Innovation in Payments

The innovation in payments has benefited consumers the most via e-wallets, mobile money and the use of a brand (for example, Grab) as a payment method.

Small and medium enterprises have been neglected, but have many payment needs such as collections and invoicing for example, and require innovative products to help them with these needs.

There are regional differences in innovation too. Southeast Asia (SEA) is seeing rapid adoption of payments. However, certain very ethnically spread-out economies face challenges, such as Indonesia that is still 97% cash based, mainly due to challenges in financial literacy. The experience therefore in SEA is uneven, with advanced economies such as Singapore being very advanced and big challenges faced by neighbouring economies.

Bridging customers and merchants globally and improving the seamless/frictionless customer experience are still seen as key. However, we cannot ignore the offline world where the customer experience expectation is now on-par with their online experience.

In countries with issues around financial literacy, the role of payments will be different. The approach must be localised to different areas, literacy and expectation levels. A global approach does not always work. The experience of OVO in Indonesia is a good example of this.

With so many payment providers, there is still fragmentation of customer behaviour. Over time, standardisation is required but it will be hard to apply.

Interoperability

With over 240 message types globally, the need to interoperate cannot be denied. However, standardisation will be hard to apply. It has to be done in a way to help financial inclusion especially for those who have issues with financial literacy.

The role of the regulators can expand with public private partnerships and become value driven.

Low barriers to entry/collaboration

Payment providers are popping up every day due to the ease at which they can access technology. No one believes that there will be a winner-takes-all, or a "SuperApp", but collaboration will be required.

In certain economies, due to the local financial literacy issues, an aggregator may not succeed due to the localisation and the different consumer behaviour patterns.

Innovation transfer will occur from some economic areas to another, for example, the Singapore experience is now being exported to Brazil.

Future of traditional banks and the issues of trust/loyalty

The question was raised on whether loyalty was one sided (that is, consumer to brand). The issue is that brands/companies need to be loyal to consumers too as consumers are finding switching costs much more affordable.

Traditional banks will be challenged by new "Super Brands". They will exploit the trust between customers and merchants and make payments look seamless.

In some regions this is still at an embryonic stage.

All in all, transparency will be the key differentiator over time.

Photo/s

Breaking the Rules; and Rewriting them
2.00pm

Speakers

- Maha El Dimachki, Head of Payments Supervision Department, Financial Conduct Authority
- Melisande Waterford, General Manager, Regulatory Affairs and Licensing, Australian Prudential Regulation Authority
- Motonobu Matsuo, Vice-Commissioner for Policy-making, Digital & FinTech Strategy, Financial Services Agency
- Simon Chesterman, Dean, Faculty of Law, National University of Singapore

Moderator: Jo Yeo, Deputy Director, Payments Policy Lead, Monetary Authority of Singapore (MAS)

Key discussion points

The first topic focused on restructuring regulatory frameworks, which is one of the key roles of regulators around the world. While FinTech has opened up opportunities for more convenient, faster and cheaper payment methods, it gave rise to new risks as well. MAS have since developed a new Payment Services Act to provide a forward-looking and flexible framework for the regulation of payment systems and service providers in Singapore.

Even though Australia has a sound existing payment system and a highly banked population, there is an increasing uptake on digital wallets, particularly relating to travel money and remittances. The existing framework on digital wallets which was created in the last decade is no longer relevant as regulations were developed prior to having any real examples. The terminology was obscure and some of the concepts were outdated. The regulators in Australia are focusing on refreshing the framework, and at the same time, simplifying the framework and aligning it with international approaches where possible. The regulator hopes to roll out a framework with ample flexibility to promote innovation.

In the United Kingdom (UK), the Second Payment Services Directive (PSD2) has been issued for about two years. There were changes in the pace of adoption of the PSD2 and open banking in the UK and this was seen as a change in regulation, which enabled innovation and competition to thrive in the UK. The PSD2 is viewed as a catalyst - an enabler for innovation of new ideas and envisions that regulations will continue to evolve. The regulators would like to keep the risks in their line of sight, so that the industry is developing in a way that is safe for consumers.

In relation to forward-looking changes to the regulations, there has been several innovative initiatives. It is important for regulators to think about whether the regulations are fit for purpose and if there is anything that can be left to chance, bearing in mind the outcome of each change to the regulations.

It is important to balance between innovation and customer protection. There is also a need to have cooperation between banks and FinTech companies and have them on a level playing field. One initiative by the Financial Services Agency (Japan) (JFSA) was for financial institutions to start sharing three defined types of information while protecting customer information. The JFSA also rolled out a one-stop registration for financial intermediaries such as FinTech companies, banks, insurance and securities to facilitate easy business application by FinTech start-ups.

From a non-regulator point of view, there are three dynamics or challenges that regulators face in determining the sweet or "Goldilocks" spot for regulation. Firstly, the timing to introduce the regulations – if it is too early, regulators do not know what risks to protect against and by the time regulators see the consequences, it is often too difficult or expensive to regulate. Secondly, differences in regulations in different jurisdictions – if regulations are too tight in one jurisdiction, then it may constraint innovation and the innovation will go elsewhere where regulations are less stringent. Lastly, the financial sector risk

is much greater than other areas, leading to lower tolerances and stricter regulations, and the people will hold the governments accountable.

In terms of support for FinTech community, regulators see their roles being expanded. They are not just building regulations but also building a full suite of support for the FinTech community. In Singapore, MAS' sandboxes have been in place for a couple of years and a sandbox express has been rolled out as a fast-tracked sandbox.

In the UK, the sandbox has been ongoing since 2016 and is currently on the sixth cohort. Through these sandboxes, companies learn a lot in the process as they define their objectives and measure against them. Companies also think about the regulatory considerations should they launch their product and services, and are able to test them against the regulations.

In Australia, a framework in the form of a phased licensing approach was formulated. It provides companies some time to build on the governance areas while having certain limits on the business.

The JFSA has a FinTech support desk, which is a one-stop hotline for FinTech companies to make enquiries on regulations. The response time for queries averages about 5 days and the desk is empowered to work with other agencies to get the answers needed. Japan has also learnt from the UK and has two types of sandboxes, one is being run by JFSA while the other is a cabinet level sandbox where each cabinet level such as the transportation agency or construction agency can use to provide FinTech firms more options.

The key message to the regulators is that it would be challenging for regulators to be regulating the industry and at the same time, be the innovation driver for the industry. Regulators could consider not being the organisers of FinTech but instead help members of the FinTech community self-organise and identify representatives to promote a community for innovation.

Photo/s

Fast Forward Payments. The future is here - Opening by Chris Clark, Regional President, Asia Pacific, Visa Inc.

3.00pm

Key discussion points

The session opened with the view of industry collaboration between FinTechs and incumbents. Visa is standing in the middle of these two industries.

Although people think Visa, a 61 year old company with 3 billion customers and $400 billion market capital, is an incumbent, it was pointed out that it is the first FinTech company that existed. It was the single biggest disruption in the unsecured consumer finance industry that had ever taken place. Even though 25% of the initial cards became bad debts, it was a great experiment. The only reason it was ultimately successful was because Visa became an open and interoperable network.

Initially, the traditional models and FinTechs were in direct completion with each other. However, FinTechs are currently focusing on working with incumbents to share the success and incumbents also realised the huge amount of value they can leverage on by collaborating with FinTechs.

Both sides have something to offer to the other. For example, the pace of innovation, consumer expectations, different aspects of personalisation, financial services and user experiences that consumers never had before are the results of this collaboration.

The incumbents still hold a strong position due to the scale of large customer base. They have a strong brand and had spent lot of time on risk and security, which are fundamental to payments. They have experience working with regulators and own 80% of world's commercial data. As technology advances with big data, Artificial Intelligence and cloud computing, the collaboration between FinTechs and incumbents means that there are great opportunities to complement each other's strengths.

It is important to have shared common standards in order to collaborate effectively. Standards such as ISO and transit message standards enable the interoperable payments.

In Southeast Asia, many governments are looking at building domestic real-time payment networks. However, the only way to move money across the border is through some kind of interoperable standards. The partnerships that are based on open common platform and interoperable standards are absolutely the future of payment systems.

The customer experience is at the forefront of everything that we do. Interoperable standards are vital because they drive the consistency of the experience for users. It is the consumers that is going to decide which payments methods succeed or fail.

Photo/s


VISA

Fast Forward Payments. The future is here - Panel Discussion

Speakers

- Chris Clark, Regional President, Asia Pacific, Visa
- Jeffrey Goh, Group Chief Executive Officer, NETS Group
- Michael Moon , Managing Director | Payments, Trade & Communications | Asia Pacific, SWIFT
- Rahul Shinghal, Head of APAC - Revenue & Growth, Stripe

Moderator: Masakazu Masujima, Partner, Head of Fintech, Mori Hamada & Matsumoto

Key discussion points

Some important trends in payments are great customer experience, interoperability, mobile payment, conversational banking, cross-border instant payments, rapid digitisation of cash, emergence of real-time payment networks, and increase in consumer confidence in wallets and payments.

In terms of innovation, the role of a payment infrastructure company is to enable innovation for the rest of the ecosystem by making it simple for entrepreneurs and enterprises to focus on their craft without worrying about the complexity of payments and regulations. For example, SWIFT is driving a cross-border payment experience across the financial industry globally.

On the topic of interoperability, open network interoperability is fundamental. Global payments networks cannot work without it. There is no advantage to competing on standards. In fact, more standards that are common facilitate better collaboration within the industry.

However, there are some payment service challenges posed by crypto-currency providers, with trust in the system being the most crucial aspect. This is so payments companies can provide similar services to their consumers, and pay their merchants.

In conclusion, globalisation and interoperability can offer a seamless payment experience. However, some challenges remain unsolved due to fragmented regulations and unstable cryptocurrencies.

Photo/s


AST FORWARD PAYMENTS
THE FUTURE IS HERE
SINGAPORE FINTECH FESTIVAL

Transformative Payments: More than meets the eye
4.00pm

Speakers

- Akhil Doegar, Head, Digital Payments Group, DBS
- Aldi Haryopratomo, Chief Executive Officer, GoPay
- Hiromi Yamaoka, Board Member, Future Corporation
- Paul Stoddart, President, New Payment Platforms, Mastercard

Moderator: Shruti Ajitsaria, Partner & Head, Fuse

Key points

The session began with a question on how collaborations are happening with new entrants to the market and how incumbents are evolving to keep up with the changing industry and customer expectations.

With 75% of Southeast Asia underbanked or unbanked, the speakers agreed that FinTechs are building the bridge between banks and consumers to provide financial services previously not available to them. This is done through partnership between FinTechs and banks. Through such collaborations, payments are integrated into the customer's life. At the same time, the payment landscape is getting radically transformed with borders between financial and non-financial institutions disappearing.

With FinTech maximising data utility, there is an increasing focus in data integrity and security for software development. Companies should look 3-5 years ahead in their customer engagements as few system implementation cycles could take 2-3 years. Nonetheless, incumbent financial institutions need to be more open to experimentation and increase their tolerance for failure. Partnership within safe zones will encourage innovation to create more robust and resilient technology products.

Culture change is necessary for incumbents, and their people, to create data-driven products with human-centred designs with the ultimate end goal of helping the customer achieve what they want. The key is not to create one system but to create interoperability between different systems to achieve speed and agility to market though partnership and collaboration.

The increase in regulators' collaboration with FinTechs are in fact valuable especially to small business that wish to operate across borders. It is believed that regulations are helpful in enhancing the speed and safety with which solutions are being implemented, particularly at scale. Lines need to be drawn when it comes to information security. Organisations need to tread carefully and maintain a balance when pushing such agendas forward. Creating opportunities for innovation are important but it is equally important to operate within a framework of rules to uphold the reputation and trust between companies and customers.

It is believed that there will be more horizontal financial service providers that cobble different solutions to provide a holistic and comprehensive set of products for the customers. Additionally, financial services activities will become increasingly virtual. Openness from the industry is needed to see this an opportunity for partnership rather than a disruption. On the other hand, FinTechs need to focus on sustainability in the long term, rather than short-term trend or profits.

Rights of consumers regarding their digital identity in the open data market will become increasingly critical. The environment will get more challenging for players to continue to keep up with the demand of customers, and high tech environments will transform into organic ecosystems with rapid data sharing. It will become more and more challenging to maintain an acceptable level of trust, safety and security.

The death of cards will not happen just yet. Cards are regarded as a physical token of banking details and in some cases, such physical experiences are embedded with a sense of trust and pride. Cards will stay in demand for consumers for as long as it continues to provide good customer experience.

On the matter of interoperability across countries and jurisdiction, it was shared that such implementations are being seen, and this trend is only going to accelerate.

Photo/s

Token Awoken: Beyond the Horizon
5.00pm

Speakers

- Jeremy Allaire, Co-Founder Chief Executive Officer, Circle
- Joshua Ashley Klayman, U.S. Head of FinTech & Head of Blockchain and Digital Assets, Linklaters LLP
- Marco Santori, President & Chief Legal Officer, Blockchain
- Mike Kayamori, Co-Founder & Chief Executive Officer, Liquid Group Inc.
- Oki Matsumoto, Founder Chairman Chief Executive Officer, Monex Group, Inc.

Moderator: Luka Müller-Studer, Co-founder, MME

Key discussion points

Speakers weighed in on regulatory approaches to cryptocurrencies, ranging from formal to risk-based functional approach. One said that US takes a principles based approach and that there is a need to find a legal basis to define tokens within specific jurisdiction. Another shared that securities do not follow the same pattern as tokens; tokens do not respect geography or jurisdictional boundaries. This difference implies that token presents a different set of risks from traditional securities. While the universal intention is still to protect the investor, there is no agreement as to how this protection should be accomplished at this moment in time. The regulators are focused on protecting the interest of retail investors and have a list of security measures, which may be not very clear. However, Japan has legalised cryptocurrency and is leading the way in paving the road. Another opined that there is currently a lack of clear definition and this presents a challenge for regulators especially when the token is global in nature. With the current state of play in Japan, there are over 120 crypto tokens with global business and only 6 in Japan.

Regarding the need for new license types, crypto assets are fundamentally a new type of asset and there are challenges defining it by traditional classification. In addition, digital assets are inherently global, works on a permission-based infrastructure and can exist as long as there is internet. Hence, there is a need to come up with a consistent definition of digital assets classification as a new type of financial instrument. Once this this developed, the infrastructure side will become clearer as it was built to support the new classification.

Although there is no intention of blocking new entrants, there is always a need to strive for improvements and regulations may raise their bars in response.

Separately, while the development of crypto is much faster than the law-making process, the fragmented political positions also impede the law-making process, creating an unhealthy environment. In response, the speakers shared various viewpoints. One highlighted that the tokens are global in its own right in cyberspace. As such, governments trying to regulate tokens of digital currency sounds highly ineffective and inefficient. There is no need to come up with new laws for every technology change. Another shared that the principle-based approach may make sense. However, due to the pace of evolution, flexibility is needed so that software developers can continue to innovate and develop more interesting and better integrated systems. The last speaker believed technology neutral regulation is the best approach as it is the most elastic and best suited to addressing shocks.

In response to the travel rules for crypto transaction and need to add additional information transfer layer, a speaker believed that the Financial Action Task Force fundamentally breaks the cryptocurrency, while another shared that the crypto exchange is not decentralised to start with. As such, it is understandable why regulators would want travel rules to be applied. However, there is a need to provide incentives for customers to use the exchange. In return for giving up information privacy, customer should get some form of benefit like tax benefits.

Speakers envision that the future will still have bitcoin and different types of tokens, which are unknown for now. However, there will also be many people do not want to hold any. Currency will go digital, but a global currency will not be formed as each country will still want to exercise their power in monetary currency exchange rates.

Photo/s

Investment and Global Markets Opportunities Stage - Powered by AMTD: Global Markets Outlook

Fireside Chat with Arif Amiri, Dubai International Financial Centre

Speaker

- Arif Amiri, Chief Executive Officer, Dubai International Financial Centre (DIFC)

Moderator: Pieter Franken, Director, AFIN

Key points

DIFC was established in 2004 to create a platform for global financial institutions to penetrate the wider Middle East region. Today it hosts the largest cluster of regulated firms in the region and across the gamut of financial services from banking to capital markets, wealth and investment management and insurance. To round it off, corporate services are also housed in DIFC creating a one stop solutions for financial institutions to leverage the DIFC platform in order to access the wider region.

FinTech is relatively nascent but solving a very important problem, namely financial inclusion. Financial services penetration in the Middle East region is only 30%. FinTechs are challenged to sell into banks due to regulatory restrictions and slow sales cycles so DIFC provides an enabling ecosystem such as a regional accelerator, Fintech Hive, conducive licensing regime, and a workplace that gives startups access to partners, advisors and legal firms that all have local and regional knowledge and expertise, especially on Sharia finance which has seen a 40% growth in the region.

Dubai, much like Singapore, is a financial and logistics hub in its region as well as being a melting pot and having a rich history of trade in its DNA. And also like Singapore, its focus on creating smart services offers the right formula to attract talent. Collaboration, cooperation and sharing of practices and talent with other hubs like Singapore allows Dubai to ensure a wider market reach.

Amiri closed by saying he is bullish on growth in the region given the right platform is in place to nurture innovation and growth.

Photo/s


SINGAPORE
FINTECH
FESTIVAL

Global Trade and Investment – Public and Private Perspective

Speaker

- Ahmed Saeed, Vice-President East Asia, Southeast Asia and the Pacific, Asian Development Bank
- Andrew Raymond, Chief Executive Officer, Bolero International
- Sharon Yang, Deputy Assistant Secretary for International Financial Markets , U.S. Department of the Treasury

Moderator: Adam Cotter, Director & Head of Asia, OMFIF

Keypoints

Financial innovation is disrupting global trade flows, and has resulted in unprecedented levels of connectivity and growth. Governments and regulators are beginning to recognise that policy on data is also affecting these two drivers. Data democratisation creates a level playing field by decreasing the costs of democratising financial services. To this end, from a data portability and access perspective, the US Department of the Treasury (USDT) takes a functional approach that data need not be stored locally as long as the regulator is able to have appropriate access to it. This progressive stance allows for cross-border trade and flows.

From a supranational standpoint, the Asian Development Bank supports innovation and growth in trade finance by developing standards across the different parties, having the ability to mobilise a vast number of diverse actors to solve problems, and driving solutions of scale by providing funding to social entrepreneurs who may otherwise not have such access.

The private sector also has a lot of actors across multiple jurisdictions so data is constantly being exchanged. The challenges here are lack of digitalisation, varying data standards and regulations which add to the complexity of cross-border trade between multiple parties.

Some recent innovations in the space are GLEIF (Global Legal Entity Identifier Foundation) which aims to be a source of truth for any entity subject to KYC, and Singapore's NTP (Network Trade Platform), which is a one-stop trade info-ecosystem for trade, supply chain and trade financing.

Game changers for the next 5-10 years will be all players within the trade finance ecosystem embracing digitalisation, and changes and standardisation in regulatory frameworks to support cross-border trade. In terms of innovation, the rise of Regtech and Suptech (supervisory tech) can decrease costs and quality of supervision, which can then support standardisation of data policy. The main challenge is educating both consumers and institutions on data sharing and interoperability.

Photo/s


Global Trade and Investment – Public and Private Perspective
Moderator
Adam Cotter
Director & Head of Asia CMFF
Ahmed Saeed
Vice-President East Asia, Southeast Asia and the Pacific Asian Development Bank
Andrew Raymond
Chief Executive Officer Bolero International
Sharon Yang
Deputy Assistant Secretary for International Financial Markets U.S. Department of the Treasury

The Essence of Digital Transformation by Sonia Wedrychowicz, Digital Transformation Practitioner & Thought Leader

2.00pm

Key points

Consumers are increasingly consuming services via digital channels. In order to survive, banks need to start thinking like big tech companies to deliver their solutions using digital technologies. As a point of contrast, banks used to design solutions by looking at the customer from inside-out, whereas big tech companies design solutions by looking from outside-in and from their customers' point-of-view. Customers want banking services to be hassle-free and embedded into their daily life.

Contrary to what most people believed, a big company can have a start-up culture as well. A good example is Google. The key is the mindset, and not the technology. Three key realisations that banks need to shift their mindset are:

- In the past, banks were "forcing" customers to come to the bank, but today, customers want bank to come to them.
- Banks consider other banks as their competitors, but in today's world, their biggest competitors are the big tech companies that are increasingly taking over the banking space.
- Being digital does not just mean having mobile applications, a website and online banking,a true digital bank needs to automate processes without manual intervention.

To really be a digital bank, the focus should be on:

- The customer journey – Not just selling the products, but really understand what are the steps that the customers take to fulfil a transaction.
- Human-centered design – Not just listening to your customers, but observing them, giving them the prototype and seeing how they would react.
- Agile delivery instead of waterfall delivery.
- Bank and start-up mix-up – Use both parts of the brain, the left for analytics and right for the creativity, in order to deliver value to the customers in the most enjoyable way.
- Need for speed – In digital transformation, if you do nothing for one week, you lose one month; and if you do nothing for one month, you lose one year.
- Customer analytics – With digital, you will not see your customer, but you will know everything about your customers when they interact with your application.
- Branchless banking – Using digital on-boarding and biometric data to verify customers.
- Ecosystem partnership – A mobile application is just a piece of software, a digital bank needs to plug into the whole banking ecosystem, such as the payment infrastructures and distribution channels.
- Open banking – Mutual partnerships are not enough. Digital banks need to expose their Application Programming Interface (API) to the Internet to unlock new channels of acquisition and customer engagement.

Panel Discussion: The Rise of Digital Banks

Speakers

- Chris Yao, General Manager, Strategy & International Business Department, JD Digits
- Matthias Kroener, Chief Executive Officer, Professional Development GmbH
- Nick Ogden, Founder Chairman, ClearBank®
- Nik Storonsky, Chief Executive Officer and Founder, Revolut

Moderator: Andreas Braun, Head of Data+AI, Accenture Europe/ASGR

Keypoints

A digital bank is different from a traditional bank in that it embraces technology development in a very open way, for example APIs and open banking. Contrarily, incumbent banks find this very difficult due to the burden of legacy infrastructures.

There is a difference in opportunities for digital banks in mature markets like the UK and in a new market like China. In the UK, new challenger banks, who are mostly digital started in late 2013 and 2014 due to competition mandate pushed by the government. In China, the growth of digital banks is due to internet adoption that creates tremendous opportunity for any non-financial company to provide financial services.

Traditionally, banks made their money from retail and corporate business. In the future, the retail business will shrink and banks will make majority of their money from corporate business.

On the issue of trust, in traditional banking, the trust is built upon the impression that the bank will never go out of business. However, in digital banking, the trust is more about data privacy and protection. From the branding perspective, it was argued that big tech companies have much stronger branding than traditional banks. Banks need to earn trust by delivering higher level of customer services and keeping pricing fair for their services.

Asia banks have the advantage of learning from the mistakes of banks in the other, more mature markets. Also, unlike Europe, there are many unbanked/under-banked people, and digital banking can make a huge impact on financial inclusion.

Global Leaders' Perspectives on Financial Services Innovation
3.00pm

Speakers

- Hans Brown, Global Head of Innovation, BNY Mellon
- Mihály Patai, Deputy Governor, The Central Bank of Hungary
- Nicolas Aguzin, Chairman & Chief Executive Officer, Asia Pacific/Chief Executive Officer of International Private Bank, J.P. Morgan
- Sassan Danesh, Managing Partner, Etrading Software

Moderator: Nasir Zubairi, Chief Executive Officer, The Luxembourg House of Financial Technology (The LHoFT) Foundation

Key discussion points

Over the past 10 years, the world of financial services has changed significantly. New forces have been changing the financial industry and a new model of competition has been introduced in the FinTech industry. Hence, there is a need for organisations to refocus and adapt their strategy. For example, despite the huge advancement in mobile technologies, incumbent teleco companies that managed to survive, have reimagined and relooked into existing customers, and created new value-added solutions or products.

Political elites are also getting more involved in technological advancements as well. Over the past 10 years, regulations have evolved and adapted to innovation and new landscapes. There is a huge volume of data in the wholesale market, and most regulators require service providers to offer more data transparency. While FinTech requires more governance, regulators also need to offer space for innovation so that the market can develop.

As many talents, especially fresh graduates, find the FinTech environment less regulated, it raises the question of how organisations attract and retain talents. There is a need for firms to learn and change their hiring environment, and leaders to embed new strategy. More work is done within a smaller team and a lot of delegation is involved. In addition, it is also a huge learning process for the regulators as they need to demonstrate competence whenever new ideas arise.

One of the crucial parts of FinTech, is to have an engaged community. Having the right technologies is only the starting point, followed by partnership. Network needs to be created across the chain in order to attract a broader market.

Lastly, large organisations and banks recognise outsourced expertise, which is difficult to replicate in-house. The strategy then, is to purchase, create a group, or partnership. Other than expertise, the fast changing culture of FinTech companies has also been adopted into banks and other financial organisations.

It is critical for regulators and FinTech players to engage in constant discussion and dialogue to create a healthy ecosystem.

Opportunities and Challenges of the Equities Investment Ecosystem in China and the Needed Market Structure Reforms (curated by ASIFMA)

4.00pm

Speakers

- Jean-Paul Linschoten, Managing Director, Head of China Client Strategy (Equities), HSBC Holdings plc
- Kitty Li, Head APAC Cash Electronic Trading, UBS
- Roger McAvoy, Senior Vice President, ASEAN Client Development & Head of HKEX Singapore Branches (SEHK & HKFE), Hong Kong Exchanges and Clearing
- Stuart Jones, Chairman, PASLA

Moderator: Lyndon Chao, Managing Director – Head of Equities & Post Trade, ASIFMA

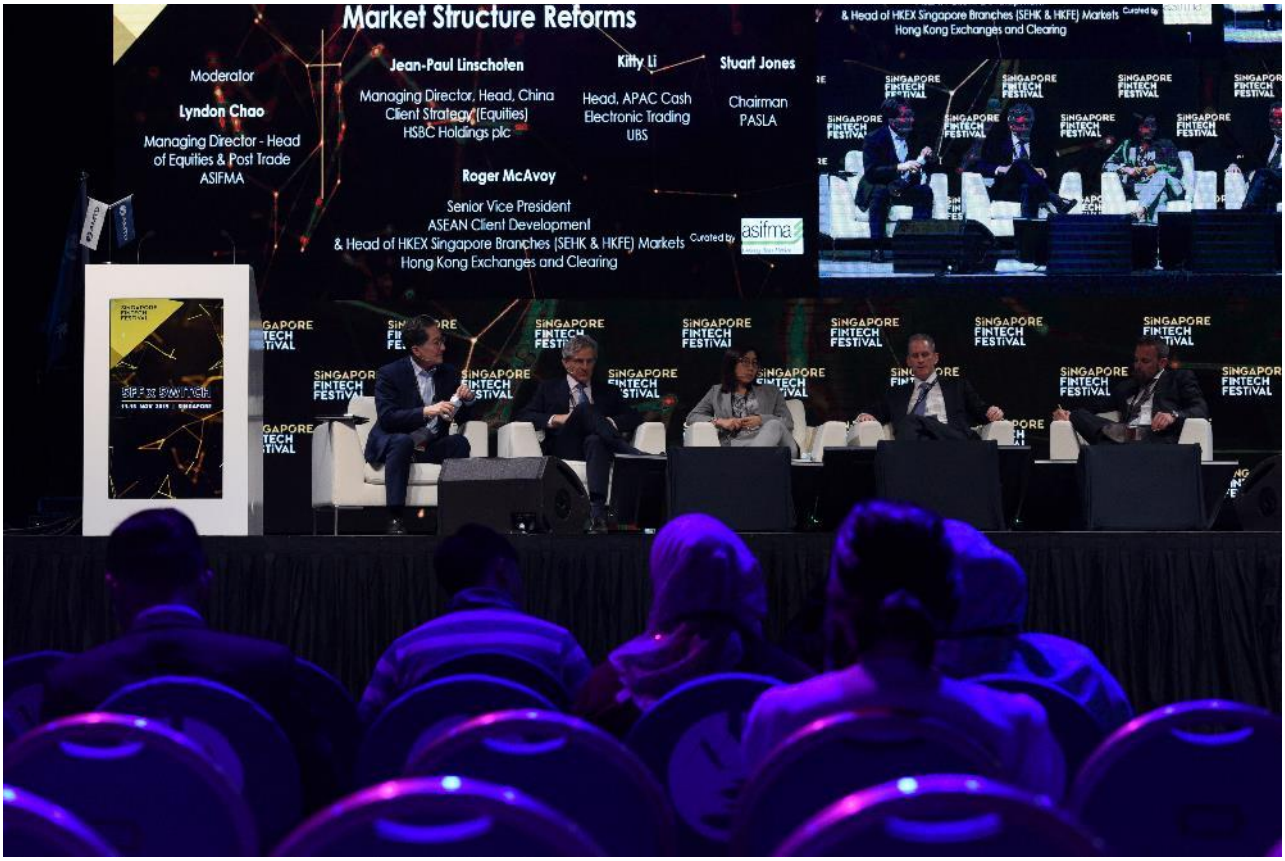
Key discussion points

Globally, China is the second biggest economy with the second largest fixed income and third largest equity market. Its markets are slowly opening up to foreign investment and Chinese assets under management (AUM) has grown steadily. Testament to the demand is that index providers like FTSE and MSCI have been gradually increasing the proportion of China 'A' shares in their indices. Until recently, access to Chinese equities for foreigners was only via derivatives products, e.g. global depository receipts (GDR's) offered by London-Shanghai Stock Connect.

Shanghai-Hong Kong Stock Connect was launched in 2014. It is a unique collaboration between the Hong Kong, Shanghai and Shenzhen Stock Exchanges to enable international and Mainland Chinese investors to trade securities in each other's markets – foreigners northbound into China and Mainland Chinese southbound into Hong Kong. Trading is done through the trading and clearing facilities of the respective home exchange, which overcomes settlement and counterparty risk challenges. Soon after Stock Connect was launched, China followed up with Bond Connect and the China Interbank Bond Market (CIBM direct) to cater to foreign demand for Chinese fixed income.

Whilst Stock Connect is certainly a step that China has taken to internationalise its markets, the channel could be further opened for north and southbound trade. Certain structural issues hinder the efficiency of Stock Connect, namely varying bank holidays between jurisdictions, requirement for pre-funding and/or delivery-versus-payment on all trades into China, the lack of block trading mechanisms which severely limits liquidity, as well as the lack of short selling limiting the ability to hedge effectively. Reforms to these hindrances will remove friction and further encourage use of Stock Connect and investment into China.

Photo/s


Market Structure Reforms
Moderator
Lyndon Chao
Managing Director - Head of Equities & Post Trade
ASIFMA
Jean-Paul Linschoten
Managing Director, Head, China Client Strategy (Equities)
HSBC Holdings plc
Kitty Li
Head, APAC Cash Electronic Trading
UBS
Stuart Jones
Chairman
PASLA
Roger McAvoy
Senior Vice President
ASEAN Client Development
& Head of HKEX Singapore Branches (SEHK & HKFE) Markets
Hong Kong Exchanges and Clearing
Curated by
asifma
SINGAPORE FINTECH FESTIVAL

Cross Border Collaboration is Key
5.00pm

Speakers

- Nejoud Al Mulaik, Director - Gov, Fintech Saudi
- Promoth Manghat, Group Chief Executive Officer, Finablr
- Waleed Sadek, Founder Chief Executive Officer, PaySky
- Yasmeen Al-Sharaf, Head of the FinTech & Innovation Unit, Central Bank of Bahrain

Moderator: Mirna Sleiman, Founder & Chief Executive Officer, Fintech Galaxy

Keypoints

The session opened with details about Bahrain. It is known to be a small market but very progressive. It is also the financial service hub in Middle East and North Africa ("MENA") and spearheads the development of financial regulations.

In Bahrain, like everywhere else in the world, technology is changing the whole dynamics of the financial services sectors. The people in Bahrain also play a part in forcing current incumbents in the market to innovate so that the people's changing needs and expectations are met. As a result of these shifting trends, the Central Bank of Bahrain decided to ride the wave by opening up, fostering innovation and encouraging current incumbents to innovate through partnership with FinTech. Bahrain's journey with FinTech started back in 2014 and it developed the first on-shore regulatory sandbox in the MENA region in 2017. The Central Bank views the regulatory sandbox as a catalyst for innovation because a lot of regulatory reforms have been made as a result of the sandbox.

Currently, there are 34 companies operating within the sandbox and 2 have gone on to obtain full operational licenses. The Central Bank continues to engage in more regulatory reforms to provide more opportunities for innovation.

The discussion traveled on to Egypt, and a company called PaySky. Paysky is a payments solution provider, and it is the evolution of traditional payments infrastructure.PaySky offers a complete range of payment acceptance solutions for face-to-face payments and can be purchased via different channels (PoS, mPoS, QR Code). The challenge with launching Paysky in the MENA region is that the banking population is only as high as 30% in Egypt and can go to as low as 5% in Yemen. Hence, it was challenging to scale Paysky at first and the team had decided to work with existing financial institutions to overcome this problem. As these banks were already regulated by the Central Bank, it was a good way for Paysky to break into the market.

Moving to Saudi Arabia, the country is currently reforming its regulations and once that has been completed, any interested players can apply for a license. Regulatory reforms in payments will open the door to more international players, especially FinTech from Asia. However, in order for these FinTechs to succeed, they need to understand the demographics and the needs of the MENA people especially the Saudi Arabians. One solution is to form strategic partnerships with the banks in Saudi Arabia to deploy these solutions in the market. There is also a substantial population of Asian expats in the Gulf Cooperation Councils (GCC) region and that could be an opportunity for the Asian FinTechs to tap on.

Bahrain and Egypt have just signed an agreement to collaborate. This collaboration will give FinTechs the ability to scale up and tap into cross boarder opportunities. However, there are many challenges ahead and the main challenge is to address the regulatory gaps between these two countries.

Finablr intends to invest 250 million in FinTech. The selection process would be to first assess if the solution proposed by the FinTech solves a problem in the market and if the product is scalable. Commercial viability is also another important aspect for consideration. Partnerships with the FinTechs are established through mentorship, incubation, joint venture (JV) or by directly investing in the company. Working with FinTech provides a fresh perspective to the business and it also ensures that the company is able to continuously innovate.

In Egypt, the regulators are trying to provide digital infrastructure so that Egypt can transform into a cashless society. In addition, they have also introduced new regulatory reforms to help build the payment ecosystem. The FinTech hub also provides opportunities for investors and start-ups to collaborate together to solve existing issues in the financial service industry.

Regulation is one of the key concerns for FinTechs. Hence, cross border collaboration between regulators to align the financial regulations of different countries could help to make it easier and faster for FinTechs to deploy their solutions in different markets. Having this collective taskforce also helps to drive synergies and efficiencies across the entire MENA. This is already happening at the GCC level. However, while cross boarder regulatory reforms can provide an easier platform for FinTechs to work on, the FinTechs also need to ensure that their solutions are viable and they can survive on their own as an enterprise.

Bahrain has been very effective at implementing its policies and one example would be the strict deadlines set to adhere to a new regulation (the implementation of open banking).

This has also been done in Egypt but an educated decision needs to be made before anything can be mandated. He also shared that with respect to open banking, the Egyptian Central Bank is still in the midst of updating their financial regulation.

A forum called the GFIN network has been set up to allow regulators around the world to share experience and learnings. The Central Bank of Bahrain, the GCC and the Arab Monetary Funds are also working together to aid financial inclusion and better serve the under-banked population.

Photo/s

Exponential Technologies Stage: Blockchain

Fireside Chat - Blockchain and the Tokenisation of Everything: What does the future hold?

1.00pm

Speakers

- Joseph Lubin, Founder, ConsenSys

Moderator: Sharanjit Leyl, Presenter & Producer, BBC World News

Key points

The fireside chat opened with the question - how far have we come in Blockchain in the last decade? It has been a decade since Satoshi Nakamoto released the white paper describing the Bitcoin protocol, but it has only been five years since we have essentially been active in building out smart contracts or programmes on blockchain.

Blockchain has become potentially a new kind of infrastructure for the planet. Because it is a decentralised technology we can make use of it in two major contexts:

- Maximally decentralised context: the ability to create objective and automated trust and use this trust as a foundation for building financial systems. We can also have sufficient decentralisation in private permission networks or consortium companies.
- Trust foundation: Companies that have trouble working together can now build shared IT infrastructure on a foundation that they know cannot be cheated.

On the subject of tokenisation, the view is that it is not a new concept. Human society has been using tokens for a long time. Tokenisation is explained as the trust to take all analog forms of tokens and make them digitised.Blockchain is a new trust foundation, and is an ideal substrate for tokenisation because you get trust from blockchain, and you can issue high-value tokens that you can be virtually certainly cannot be counterfeited.

From this decentralised trust foundation we get two things:

- Digital scarcity, which enables tokenisation, and enables cryptocurrencies to be tokenised.
- Natively digital assets like decentralised storage and decentralised bandwidth, and we can use tokens to pay for these on certain kinds of networks.

Tokens can also be used to represent real-world value, for example real estate and diamonds, and tokens make it much easier to transact different assets.

Absolutely, we could have digital to a real-world representation of our assets. We could also have smart contracts programmes on the blockchain that are embedded in this living document. We can send money into this document, we can send data into a document, and we can have the document act when certain conditions are met. In this sense, there definitely needs to be a framework.

On whether it works the same way when one tokenises one’s identity, the opinion is that certain aspects of our identity are already tokenised - our passport, birth certificate, and driver's license. These are representations of a person’s identity that are maintained by third parties.

There is a new concept called self-sovereign identity or user-centric identity, where something called a decentralised ID can be made.

As we move from a web 2.0 world to a web 3.0 world, there would be a flip in the paradigm. Instead of us relying on the likes of Google and Facebook to be custodian of our personal information, we should be in control of our identity and our personal information.

To the question of what is Internet of value and how it can impact us, it was explained that the Internet of value represents the fact that the decentralised protocols that will constitute many aspects of the decentralised World Wide Web will often have a native digital token associated with them.

Photo/s

Panel Discussion: Blockchain and the Tokenisation of Everything:What does the future hold?

Speakers

- Conan French, Senior Advisor Digital Finance, Institute of International Finance
- Matthew Roszak, Founding Partner, Tally Capital
- Paul Veradittakit, Partner, Pantera Capital

Moderator: Pradyumna Agrawal, Director, Blockchain@Temasek, Temasek International

Key points
The session opened with a question - How do they see tokenisation panning out, and what are the real drivers for some of the efforts in this space?

There was a view that the most significant development globally this year is the trend to tokenise central bank currencies.. This move was accelerated with Facebook's Libra proposal, and G7 forming a study group.

Another view was that the ability to tokenise for liquidity price discovery is going to be suitable for investors. The tokenization of traditional assets is disrupting the financial services industry with a completely new architecture of wallets, exchanges, and custody services.

Tokenising traditional assets will give institutional investors a baby set, and some training wheels to move towards some of the more interesting new digital cooperatives that are tokenised.

In terms of decentralised finance - which enables peer-to-peer finance for any asset in a more decentralised, secure and automated way – different protocols are emerging that allows for liquidity aggregation for use cases around lending.

As blockchains continue to maturepeople will start “photocopying” these use cases into a different industry, and it will begin compounding after that.

Bringing in the money layer, including official, sovereign central bank money, will open up a whole universe in this space.

The JPMorgan coin and Facebook Libra will now unpack themselves profoundly. It was opined that the biggest impact in the space is the creation of a new digital cooperative, and banks with massive networks and massive regulatory edge, can do it.

Decentralised lending could be a key enabler in this space with the building of products that provide a great user experience to access not only one lending protocol, but also many protocols that have inter-operability across verticals.

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GLOBAL TRENDS:
WHERE ARE WE HEADING?
SINGAPORE FINTECH FESTIVAL

Securities Dematerialisation to Assets Tokenisation
2.00pm

Speakers

- Charles Cascarilla, Co-Founder Chief Executive Officer, Paxos
- Jos Dijsselhof, Head Innovation & Digital, SIX
- Mark Adams, Senior Executive Leader, Australian Securities & Investments Commission (ASIC)
- Mathias Imbach, Co-Founder & Chief Executive Officer Singapore, Sygnum

Moderator: Mohsen Alzahrani, Vice President of Strategy & Excellence, Saudi Payments

Key points

Although 6 billion dollar cash had been tokenised, it is still a relatively small percentage. The outlook of tokenisation is promising as it can instantaneously move cash cross border with little fee. Now, there are a lot of efforts on pushing real estate and commodities such as gold toward tokenisation.

Education is the key to know what tokenisation can do, and how we can benefit from it and apply them. The finance sector had gone through virtualisation of securities, shifting from paper accounting to digital form. Now is a good time to move away from the intermediaries by tokenisation that will allow us to access the sources more efficiently and easily.

However, there are 2 critical consideration in tokenisation – (1) market integrity and (2) consumer protection.

In view of the many networks that are existing in today's market, the challenge now is to get all these players to come together with the regulators to exchange ideas and collaborate.

Photo/s

Blockchain Interoperability
3.00pm

Speakers

- Julian Gordon, Vice President, Asia Pacific, Hyperledger, The Linux Foundation
- David Treat, Managing Director, Global Blockchain Lead, Accenture
- Marley Gray, Principal Architect, Microsoft
- Richard Brown, Chief Technology Officer, R3

Moderator: Sophia Lopez, Founder & Chief Operating Officer, Kaleido

Key points

The session started with the definition of blockchain interoperability where different blockchains stack and work together to communicate with each other.

The session subsequently discussed the tokenisation of blockchain and emphasised the need to establish common terms through education. With the understanding of tokenisation even without programming knowledge, it ensures people are getting the right business requirements before code implementation. Tokenisation is a fundamental capability that allows the user to share data and business logic. Some of the use cases include digital identity and the ability to be associated with human and corporate entities.

The session concluded with the need for industries to develop blockchain standards at high levels rather than the protocol level. The speakers agreed that there is strong business demand for blockchain interoperability, and the way to be successful is to start building a strong network and collaborate to optimise solutions.

Photo/s

Beyond POCs: The Production Journey - Opening by David E. Rutter, Founder & Chief Executive Officer, R3

4.00pm

Key points

The session opened with a brief description of the benefits of blockchain technology and an overview of entities R3 and Corda.

Blockchain delivers trust without friction. Everyone involved in the transaction chain knows what has happened and when it happened, and helps avoid any reconciliations. Three key benefits:

- saves dollars
- streamlines process
- reduces complexity

Blockchain will transform entire markets, and the following points need to be kept in mind for blockchain transformation:

- Social and economic systems will be changed
- Adoption will be gradual and steady
- Pioneers can capitalise on this revolution by getting involved early

The growing adoption of blockchain across APAC is in trade finance and post-trade/transaction settlements, cross-border payment settlements and regulatory compliance. Few live applications include Project Voltron, DBS, MarcoPolo, Finacle, Federal Bank and Jventures.

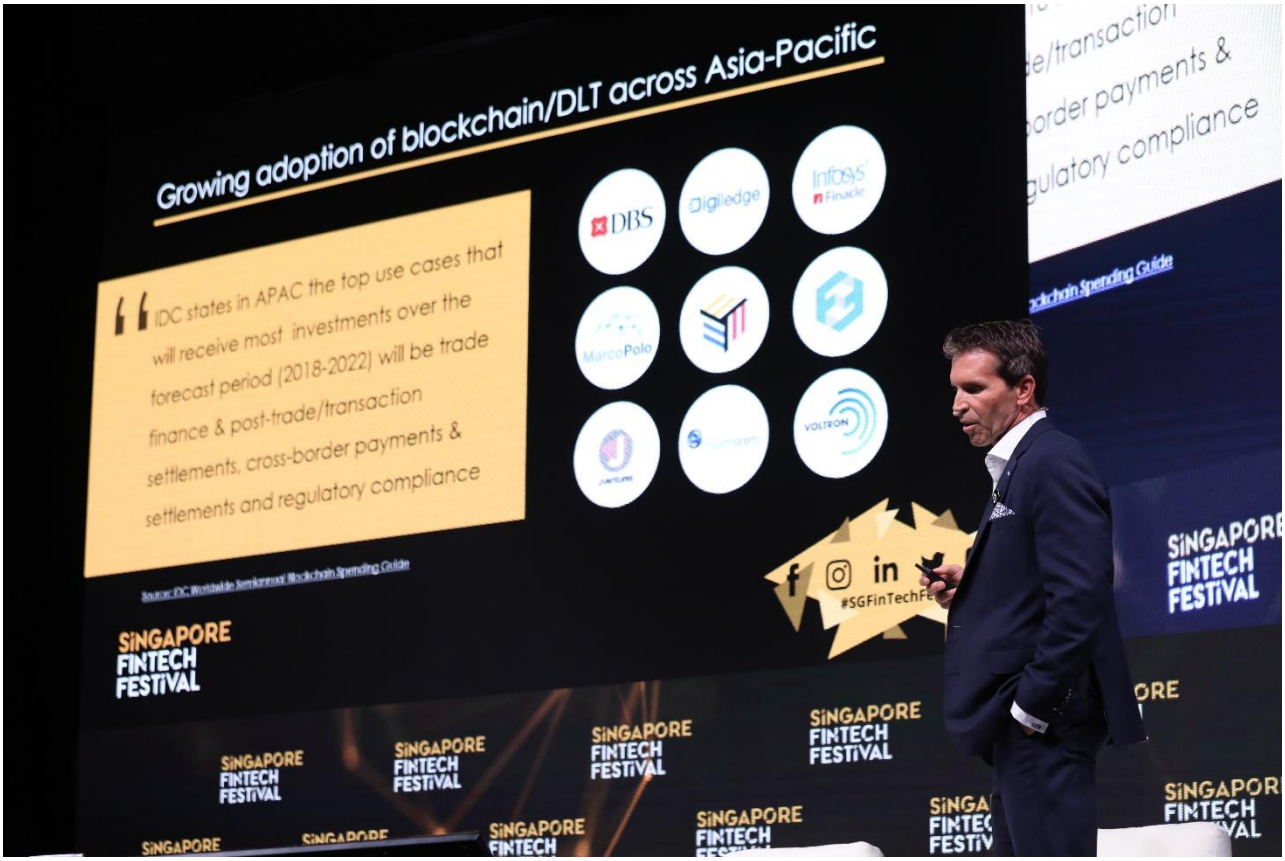
Regulatory engagements are equally important. Examples of such engagements include:

- HongKong Federation of Insurers: Midas
- HongKong Monetary Authority: LionRock
- Bank of Thailand: Inthanon
- HongKong Monetary Authority and Bank of Thailand: LionRock-Inthanon
- Monetary Authority of Singapore: Ubin

The hype is over and we are seeing more blockchain applications going live every day.

Photo/s


SINGAPORE FINTECH FESTIVAL
David E. Rutter
Founder & Chief Executive Officer
R3


Growing adoption of blockchain/DLT across Asia-Pacific
IDC states in APAC the top use cases that will receive most investments over the forecast period (2018-2022) will be trade finance & post-trade/transaction settlements, cross-border payments & settlements and regulatory compliance
DBS
digiledge
Infosys Finacle
MarcoPolo
VOLTRON
#SGFinTechFe
SINGAPORE FINTECH FESTIVAL

Beyond POCs: The Production Journey- Panel Discussion

Speakers

- Christine Moy, Executive Director, Blockchain Program Lead, J.P. Morgan
- Justo Ortiz, Chairman, Union Bank Philippines
- Orapong Thien-Ngern, President, Siam Commercial Bank, Chairman, Board Digital Ventures
- Shalini Warrier , Chief Operating Officer, The Federal Bank Ltd

Moderator: Adam Burden, Senior Managing Director, Accenture

The session began with a brief overview of blockchain solutions deployed successfully and live in production.

- **JP Morgan Blockchain application:** The main intent was to improve customer pain points in cross-border payments, such as delays in payments due to pre-requisites like sanction screening (which is a major component of transactional due-diligence to ensure that banks are not dealing with sanctioned individuals or entities). For example, if someone has to transfer money from United States of America (US) to Singapore (SG), the payment instruction will cross through five or more correspondent banks. Each of these correspondent banks has to check if the ultimate receiver is on their sanction-screening list or not. Each bank calls/emails the previous correspondent bank, until sanction screening is complete. This is a tedious process, and hence, JP Morgan used scalable blockchain technology to connect all correspondent banks in a peer-to-peer network, so that sanction screenings/exceptions can be resolved within minutes. Today, over 345 global correspondent banks have joined JP Morgan's Interbank Information Network (IIN).

- **Siam Commercial Bank Blockchain application (Thailand):** This bank uses blockchain technology to create a 'Bank as a platform' to refine the process inefficiencies in supply chain trading. It started as a pilot in January 2018 and took around eight months to go into production, and then one year to finally onboard their first customer along with its 100 suppliers. However, a lot of issues and exceptions needed to be fixed after going live into production, for example, regarding a particular purchase order, the quantity delivered might be different, or the invoicing issued might be different. Nevertheless, they have now reached maturity to scale this solution and are onboarding higher number of suppliers every week.

Resulting benefits from this include:

- Suppliers: receive faster payments.
- Buyers: save 50% time and 70% cost incurred in payment processing.
- Correspondent banks: able to onboard more suppliers with shortened invoicing time, and no collection/credit risk evaluation needed.

- **The Federal Bank Blockchain application (India):** This bank uses blockchain to innovate cross-border remittances in India. As a correspondent bank, they had to do a lot of reconciliation to give proper line of sight over the transaction flow to the partner from the exchange house. Nodes transparency in blockchain technology enables the partner as well as correspondent banks to now have a clear and direct line of sight on the entire transaction flow and address any failures immediately. Consequently, the beneficiary, remitter, and the correspondent banks all gain benefits as cost of transaction comes down, no reconciliations are needed, and full transparency allows issue resolution immediately

Major issues/challenges faced going from POC to production:

1. Convincing Stakeholders: A huge effort goes into educating and convincing stakeholders (both internal - like compliance, risk, cybersecurity, audit, as well as external tech partners) to get their buy-in

for the business case, as it has far reaching implications on reputation risk. Even external auditors require a knowledge session on this technology.

2. Resourcing Talent: Availability of right talent/skillsets is still quite limited

3. Still evolving technology: Since this technology is still new and constantly evolving, there is not a lot of legacy tools or infrastructure to be leveraged. Enterprise blockchain solutions almost always require a custom build from scratch.

4. Connecting Blockchain technology to legacy systems: It is quite challenging as legacy systems use traditional methods of data storage.

5. Change Management and solving production issues: It is also quite complex and challenging.

Photo/s

Competition to Collaboration: Building Blockchain Business Networks

5.00pm

Speakers

- Carl Wegner, CEO Designate, Project Voltron
- Hitesh Sachdev, Head – Startup Engagement & Investments, ICICI Bank
- Souleima Baddi, Chief Executive Officer, Komgo
- Tim Grant, Founder & Chief Executive Officer , DrumG Technologies

Moderator: Harshveer Singh, Partner, Bain & Company SE Asia, Inc.

Key discussion points

Project Voltron started as a joint project between eight banks wanting to launch a blockchain platform for digitising trade finance. Investment was made into Intellectual Property (IP) and technology build but, ultimately, it was decided that success would come from making the platform independent, which resulted in a much larger ecosystem of banks and corporates using the platform.

In 2016, ICICI Bank harnessed Blockchain for international trade finance and remittance in partnership with Emirates NBD but quickly learned that for blockchain to succeed, there has to be complete collaboration between all stakeholders. A consortium of large Indian banks was created to own, operate and manage the platform.

KOMGO's success as a blockchain-enabled data communication platform for commodity trade finance has been attributed to having a solid network of investors from both sides of the industry (banks and corporates) and having created a separate entity outside of its network of backers to allow for independent governance.

The four pillars for a successful and collaborative consortium are strong leadership and a shared mindset from Day 1, technology that works, a solid governance that includes an accountability structure, and a commercially viable business model. In order to achieve alignment, creation of various committees is key - a technical committee to evaluate technology, and a regulatory committee with legal counsel and regulators. Lastly, a product track and transparency are vital. CORE values — Control of data; Ownership of data; Rights & obligations of data; Economics – were given as the key to solid governance.

Photo/s


COMPETITION TO COLLABORATION
SINGAPORE FINTECH FESTIVAL

Closing Remarks by Christian Catalini, Co-Creator of Libra, Head Economist, Calibra (Facebook)

Key points

Christian Catalini started with the economics of Libra - a permissioned blockchain digital currency - and gave an overview of design principles, which is incorporated within Facebook.

He covered the economic design of Libra by sharing two principles:

- Cost of verification - Ability to cheaply verify the state
- Cost of networking – Ability to bootstrap and operate in a marketplace without assignment control to a centralized intermediary

Later he covered the key objectives of the economic design of Libra:

- Building trust in an efficient medium of exchange in the payment network.
  - Libra is designed to be a useful medium of exchange, especially across borders.
  - It is backed by a pool of cash, cash equivalent entities and with government securities.
  - It complements and extends the functionality of existing currency, and does not substitute it. In the liberal system, there's no new money created from a macroeconomic perspective.
  - It is built on assets that are generated, controlled and managed by central banks.

- Trust in Libra protocols and the resulting market for financial services
  - Proof of work of blockchain does not allow for a rational contract by design.
  - Libra is modeled after an open technology standard and the idea is really to ensure competition as well as low friction and low switching costs.
  - The more competition in financial services and in payments, the more the cost will lower. This will enable all sorts of new business models and innovation to thrive in a very vibrant ecosystem.

- Trust in the governance and future evolution of the ecosystem and its reliability, and the entire ecosystem built around Libra.
  - Libra is really designed to encourage competition and innovation within the platform.
  - The association plays a key role not only in the governance, but also in advancing the technical roadmap.
  - The platform will be open for anyone to build on from Day 1, regardless of whether they're a founding member of the association or not.

In a system like Libra, rational contracts rely on off-chain reputation and local institutions to secure the network.

Libra started in June 2019 with a decision to charter development. Ratification was done in October 2019, and is scheduled for launch in 2020.

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SINGAPORE FINTECH FESTIVAL
The Economics of Libra
Christian Catalini
Head Economist, Calibra

Coral Triangle Stage

SFF Global Leaders' Roundtable - Driving Inclusion – Re-thinking The Unbanked (by Ecosystm)

1.00pm

Speakers

- Ambareen Musa, Founder & Chief Executive Officer, Souqalmal.com
- Deepak Sharma, Chief Digital Officer, Kotak Mahindra Bank
- Dino Setiawan, Chief Executive Officer, AwanTunai
- Kaye Maree Dunn, Co-Founder, Āhau, Director, Making Everything Achievable Ltd
- Michael Eksteen, Vice President, Chubb Digital, APAC
- Neelam Dhawan, Board Member, Royal Philips, The Netherlands & ICICI Bank, India
- Parry Ravindranathan, President & Managing Director, International, Bloomberg Media
- Rasha Negm, Assistant Sub Governor, FinTech & Innovation, Central Bank of Egypt
- Roland Scharrer, Group Chief Technology Innovation Officer, AXA
- Tamara Bullock Cook, Chief Executive Officer, Financial Sector Deepening (FSD) Kenya

Moderator: Anika Grant, Board Advisor, Ecosystm

Key points

The session kicked off highlighting that there has been greater financial inclusion in emerging markets over the last few years. However, 1.7 billion people, according to the World Bank, still remains without access to traditional banking systems. A range of distinguished and diverse group of leaders within business, government and technology sectors participated in the session to drive the dialogue around promoting inclusion in their respective areas and how certain governments are helping to drive financial inclusions in rural areas.

Financial education is at the core of driving further financial inclusion in emerging markets, specifically in rural areas. There are people who are still unaware of the differences between a debit card and a credit card, and understanding of financial products in general is still a challenge in many countries. Therefore, promoting financial education is a key initiative for regions such as the Middle East, particularly in Saudi Arabia. It is important, when helping rural areas, to find a balance between the people's understanding of money, and the traditional banking systems available. The key is to get these cultures more financially included while still keeping their heritage.

In Indonesia, financial services providers across the supply chain are discovering ways to include un-digitised markets into the FinTech community by working with traditional wholesale suppliers to digitise their offline transactions records. This allows actual individual merchants to build their transactions history and determine their business performance – something that was not possible before. This has resulted in a positive effect between wholesalers and traditional farmers as they could provide financing where required and have transparency.

In Kenya, trust and financial inclusion go hand-in-hand, and is largely driven by applications where one could make financial transactions between intermediaries. Affordability is also a big factor for financial inclusion, and is largely driven by digital channels and digital innovation.

Egypt has one of the largest populations in Africa and the Middle East. Almost 100% of its population have mobile devices and yet financial inclusion is 33%. This has led the government to act by opening up more innovation in FinTech, and creating available funds to transform Egypt into a digital economy.

In India, big financial inclusion initiatives have been pushed by the government such as payments being made through bank accounts rather than between middlemen or subsidies. This initiative drove a large percentage of the population to open a bank account,, from 36% in 2011 to 80% in 2018.. Furthermore, the introduction of biometric cards - a personal identifier - was introduced in 2014 to make sure that payments were made to the right account holder. While digital payments were made through mobile applications, it is vital to think of multiple technological infrastructures when creating these applications and not just focus on the latest mobile technology. There is still 200 million people in India without bank accounts, so there is more work still to be done to drive financial inclusion.

Data was also discussed during the session. While developed economies became economically rich before becoming data rich, countries with emerging markets are the opposite. This allows for more financing and lending assurance as one can see income history and spending behaviour from their data. However, there were many contradicting opinions on whether the data was being utilised properly to drive further financing in emerging markets. While more data have been gathered to create machine learning models for credit applications, the question still remains on the usage of data, data privacy, and whether the right features are being used to predict default probabilities.

It was still difficult to understandfinancial situation in rural areas, because data collection is rudimentary, and insights are deemed biased as certain rural areas have no digital footprint. Before we can tackle ethical issues around data, basic laws are required to tackle illegal FinTech. For example, in Indonesia, people from rural areas get into deep debt with loan sharks and are unable to litigate against them as there are no laws to protect against illegal FinTech or illegal financing. Governments should work with FinTech companies to address issues like this.

Governments should also play their part to protect data sovereignty, digital identity and access to data, and to use the data in a hyper-local approach to bridge people, cultures and digital footprints.

Photo/s

Exponential Technologies - Creating a Better World (by Ecosystm)
2.30pm

Speakers:

- Anand Deshpande, Founder & Chairman, Persistent Systems
- Angela Carcheska, Overseas Chief Executive Officer, Hundsun Technologies Inc.
- Anthony Bartolo, Chief Product Officer, Tata Communications
- Graeme Muller, Chief Executive Officer, NZTech
- Raman Roy, Chairman & Managing Director / Chairman, Quattro / NASSCOM
- Shailesh Rao, Partner & Managing Director, TPG Growth & The Rise Fund, TPG Global
- Sudhir Pai, Chief Technology & Innovation Officer, Financial Services Global Business, Capgemini
- Wan Peng Ng, Chief Operating Officer, Malaysia Digital Economy Corporation (MDEC)

Moderator: Randeep Sudan, Board Advisor, Ecosystm

Key points

While there is a consensus that FinTech brings development solutions around data integration, user experience, compliance and forecasting, there are still lots of problems to be addressed, opportunities to be created, ecosystems to be built, and concepts to be proven.

In the current market, tech giants have established their own platforms or ecosystems. For example, Facebook issued Libra, and Grab obtained a digital financing license. Hence, start-ups are concerned about competing in these ecosystems, which are dominated by these giants.

Various speakers addressed these concerns from different perspectives. Firstly, new business models can be tried out, inspired by WhatsApp which provides free services without advertisement. Secondly, there is always a time window before tech giants enter the market due to inertia such as internal policies, regulations and resources allocation. Hence, for start-ups, they can still build a reputation and grow if they are able to target specific groups of users and address the painpoints.

Moving the conversation forwards to the impact of 5G in finance sector, the speakers came to a common understanding that 5G will be ubiquitous and bring tremendous changes to the industry. Possible applications like quantum computing might arrive faster than expected, while system design could be moving towards distributed or even decentralisation further down the road. While most of the finance companies still depend heavily on legacy technology at the moment, they will all be subjected to change alongside with new regulations and policies.Governments have to find a balance between utilising the data efficiently and protecting the data privacy, the steer should be focused on ways to protect the data rather than placing more restrictions.

There are two aspects on how start-ups can scale in a market greatly influenced by tech giants. On the back-end aspect, applications can scale without many difficulties with the current technologies like cloud infrastructure, containerisation and Kubernetes architecture. That said, the front-end aspect could bring more challenges to start-ups as they need to address the consumers' painpoints, and educate them by raising awareness, so that they will pay for the scaling of start-ups.

Lastly, more time is required for improved data accessibility as different parties need to reach a consensus with proper safeguarding and transparency in data-sharing.

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SINGAPORE FINTECH FESTIVAL
SFF Global Leaders' Roundtable:
Exponential Technologies – Creating a Better World
Moderator
Randeep Sudan
Board Advisor
Ecosystm
Anand Deshpande
Founder &Chairman
Persistent Systems
Angela Carcheska
Overseas CEO
Hundsun Technologies Inc
Anthony Bartolo
Chief Product Officer
Tata Communications
Dato' Ng Wan Peng
Chief Operating Officer
Malaysia Digital Economy (MDEC)
Graeme Muller
Chief Executive Officer
NZTech
Raman Roy
Chairman/Managing Director
Quatro
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Cash In/Cash Out networks for digital financial inclusion hosted by CGAP

Key points

CGAP is a think tank for financial inclusion operating under the World Bank. Its focus is on agents who provide cash services to rural populations to increase financial inclusion. This has included the use of mobile money payments at a basic level (not smartphones). Operating and regulating agents have seen several challenges across many countries in this regard.

Aggregators for Agents

Agents can act for more than one provider of cash in/cash out services, and based on the surety that they must meet and/or the incentives provided, which have a level of bias. Aggregators can overcome that, but agents have been resistant due to infrastructure costs, fees paid to multiple people in the chain and lack of alignment of business models. An agents' earnings can get volatile and therefore incentivising an agent to serve the unbanked and to do it fairly has been a challenge.

Expanding rural agents in many countries has been difficult, as it is complex and costly. One of the key issues is the surety deposit and the float. Agents still need physical banks to deposit the float, and in many places these physical bank branches are not nearby.

The biggest impediment is the lack of interoperability between agents, their technology and their multiple incentives.

Factors impacting interoperability Several issues and solutions were cited:

- Resistance from agents as they are competing against each other for the same customers.
- In earlier cases, agent contracts were exclusive, but regulation is currently helping with this.
- Improved regulation and clearer direction will help.
- Aggregation helps but also increases operator costs.
- Policy-wise, the issue is the timeframes of the wider industry, including differing ones depending on the different industry regulators, for example, telco regulator and central bank regulator.
- Implicit vs explicit costs as there is a hidden cost of moving money.
- KYC requirements, which relates to the difficulty in trusting a customers' documentation
- Vulnerability to fraud by agents and crime gangs
- Cost of infrastructure without government support.
- Agents have been known to create SPV (special purpose vehicles) to circumvent regulators (both telco and central bank).
- Ability to offer extended financial services, for example bill payments and micropayments.

Creating viable agent networks

Four key points are needed for this to work:

1. Certainty/Trust that it is going to work and agents will not run off
2. Ubiquitous – Has to work anywhere and for everything
3. Pricing – cost to use has to be low, especially in digitalised view
4. Loyalty

Pricing

The agents need to reward merchants in order to take these payments. Even though the merchants get a cash incentive, they sometimes game the system.

The problem is availability of cash flow and lack of a healthy working capital; hence making the operations costly and potentially unprofitable.

Outlook

It is hard to move the unbanked away from cash to a digital-only world. Regulators and policy makers would need to de-incentivise the use of cash and incentivise digital services. However, with trust issues, the dominance of simpler basic phones (USSD) and a lack of security, this becomes very difficult and expensive.

Some points that can help improve the situation:

- Ease the burden of KYC
- Increase distribution of business correspondents (aggregators) so that they can mimic bank branch operations
- Work on a wider agent pool
- Democratisation of data devices would help as the USSD is not a data device

Photo/s